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09/598,201	06/21/2000	Koji Okamura	35.G2608	7097

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EXAMINER

PHAM, THIERRY L

ART UNIT PAPER NUMBER

2624

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/598,201

Applicant(s)

OKAMURA ET AL. *2*

Examiner

Thierry L Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☒ Claim(s) 2, 6, 7, 13, 17, 19, 21, 22, 25, 28, 30, 32, 36, 37, 40, 45, 48, 51 and 54 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Image forming apparatus with decimation modes.

Claim Objections

Claims 2, 6, 7, 13, 17, 19, 21, 22, 25, 28, 30, 32, 36, 37, 40, 45, 48, 51 and 54 objected to because of the following informalities: Regarding claim 2, "first recording mode and second recording mode" should read as "first recording mode or second recording mode". Regarding claim 6, "monochrome image and a color image" should read as "monochrome image or color image". All preceding claims have similar claim structures. Appropriate correction is required.

Claims Interpretation

Regarding claims 8, 14, 23, 29, 38, and 44, since the applicants fail to disclose an adequate written description for "an image having a plurality of pages"; therefore, the examiner interprets "an image having a plurality of pages" as a "an image having plurality of colors" for examining the claims with respect to the prior art.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 8, 14, 23, 29, 38, and 44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains,

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or with which it is most nearly connected, to make and/or use the invention. . The specification does not provide an adequate written description of the limitations as recited in claims 8, 14, 23, 29, 38, and 44, wherein “an image having a plurality of pages; determining means determines the image type of the input image in units of page; and control means controls the recording mode in units of a page”; therefore, it does not enable one skilled in the art to make, use and/or practice the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1- 4, 6-8, 16-19, 21-23, 31-34, 36-38, 46, 49, 52 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujimoto et al (U.S. 6204867).

Regarding claim 1, Fujimoto discloses an image processing apparatus (Fig. 1) comprising:

- (1) input means (CCD, Fig. 2A) for inputting an image of one of a plurality of image types (color or monochrome image types, col. 4, lines 26-34);
- (2) selecting means (selecting means, col. 4, lines 27-34) for selecting a recording mode from among a first recording mode (first mode, col. 3, lines 15-24) for recording the image on a recording material at a predetermined recording density (color image information density, col. 3, lines 15-24) and a second recording mode (recording mode for monochrome image information, col. 3, lines 15-24) for recording the image on the recording material at a recording density (density adjustment mode for adjusting higher or lower density levels, ref. 58, Fig. 4, col. 16,

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lines 7-14. In addition, Fig. 18 shows monochrome images are recorded at a higher speed than color images, col. 27, lines 3-13 and col. 7, lines 23-27. It is known in the art that high-speed printing thus provided lower density quality than low speed recording) lower than that of the first recording mode;

(3) determining means (image discriminating means, col. 2, lines 42-52) for determining if the input image is a predetermined image type; and

(4) control means (original discriminating means, Fig. 2A and Fig. 5, col. 3, lines 15-24) for changing to the first recording mode, when the second recording mode is selected by said selecting means and said determining means determines that the input image is the predetermined image type.

Regarding claim 2, Fujimoto further discloses an image processing apparatus according to Claim 1, further comprising a recording means for recording the image in one of the first recording mode and the second recording mode (color and monochrome modes, Fig. 7).

Regarding claim 3, Fujimoto further discloses an image processing apparatus according to Claim 1, wherein said input means inputs one-pixel binary image data (image with black pixel, Fig. 5, col. 12, lines 47-55).

Regarding claim 4, Fujimoto further discloses an image processing apparatus according to Claim 1, wherein the second recording mode is for decimating and recording the input image (monochrome mode for lower density recording (high speed), Fig. 18, col. 7, lines 23-27). Also see rejection basis/rationale as described in claim 1 above.

Regarding claim 6, Fujimoto further discloses an image processing apparatus according to Claim 1, wherein the predetermined image type is a color image (Fig. 5), and said determining means determines whether the input image is one of a monochrome image and a color image (Fig. 5); and said control means changes (mode managing means, Fig. 5, col. 3, lines 15-32) to the first recording mode, when the second recording mode is selected by said selecting means, and said determining means determines that the input image is a color image.

Regarding claim 7, Fujimoto further discloses an image processing apparatus according to Claim 1, wherein when the input image type is a monochrome image, and said determining means determines (separation/screen circuit, col. 14, lines 23-31) whether the monochrome image is one of a character image and a halftone image; and said control means changes (if it is not color image, switch to monochrome image mode, Fig. 6) to the first recording mode, when the second recording mode is selected by said selecting means, and said determining means determines that the monochrome image is a halftone image.

Regarding claim 8, Fujimoto further discloses an image processing apparatus according to Claim 1, wherein said input means inputs an image having a plurality of pages (image having a plurality of colors, Fig. 18); said determining means (Fig. 18) determines the image type of the input image in units of a page (i.e. page having yellow, magenta, and cyan colors, Fig. 18); and said control means controls the recording mode in units of a page (color mode, Fig. 18).

Regarding claims 16-19, and 21-23 are the method claims corresponding to the apparatus claims 1-4, 6-8 (respectively). The method claims are inherent and included by the operation of the apparatus claims. Please see claims rejection basis/rationale as described in claims 1-4, 6-8 above.

Regarding claims 31-34, 36-38: Claims 31-34, and 36-38 correspond to claims 1-4, 6-8 (respectively) except computer readable memory medium for storing program is claimed rather than printing system or data output apparatus. An image forming apparatus as disclosed by Fujimoto shows computer readable memory medium (HD storage, Fig. 2A) for storing computer programs, hence claims 31-34, 36-38 would be rejected using the same rationale as in claims 1-4, 6-8.

Regarding claims 46, 49, and 52: Please see rejection rationale/basis as described in claims 1, 16, and 31 (respectively) above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5, 20, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto as described in claims 1, 18, 33 above, and in view of Tokuyama et al (U.S. 6438274).

Regarding claim 5, Fujimoto further discloses an image processing apparatus according to Claim 3, wherein said input means input one of binary data received from another communication apparatus (PDA, Fig. 2A).

However, Fujimoto does not disclose explicitly wherein the binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

Tokuyama, in the same field of endeavor for image forming apparatus, discloses the binary data obtained by binarizing multi-valued image (multi-value and binary image processing sections, Fig. 3, col. 1, lines 4-10 and col. 2, lines 57-67) data obtained by reading a subject copy.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Fujimoto as per teachings of Tokuyama because of a following reason: (1) to prevent deterioration of image (Tokuyama, col. 2, lines 57-60); (2) operational efficiency of the color image forming apparatus is improved (Fujimoto, col. 2, lines 1-5); (3) reduction of the life of the motors and/or problems of noise and wasted power consumption can be prevented and reduction of waiting time (Fujimoto, col. 8, lines 33-42).

Therefore, it would have been obvious to combine Tokuyama with Fujimoto to obtain the invention as specified in claim 5.

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Regarding claim 20: Claim 20 is the method claim corresponding to the apparatus claim 5 above. The method claims are inherent and included by the operation of the apparatus claims. Please see claims rejection basis/rationale as described in claims 5 above.

Regarding claim 35: Claim 35 corresponds to claim 5 as described above, except computer readable memory medium for storing program is claimed rather than printing system or data output apparatus. An image forming apparatus as disclosed by Fujimoto also shows a computer readable memory medium (HD storage, Fig. 2A) for storing computer programs, hence claim 35 would be rejected using the same rationale as in claim 5.

3. Claims 9-11, 13-15, 24-26, 28-30, 39-41, 43-45, 47-48, 50-51, 53-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto et al (U.S. 6204867), and in view of Narendranath et al (U.S. 5751433).

Regarding claim 9, Fujimoto discloses an image processing apparatus comprising: (1) input means (CCD, Fig. 2A) for inputting an image of one of a plurality of image types (color or monochrome image types, col. 4, lines 26-34); (2) a third recording mode for recording the image input means on the recording material without decimating the image (recording an image in a color mode, Fig. 6, col. 3, lines 15-24); (3) determining means (image discriminating means, col. 2, lines 42-52) for determining if the input image is a predetermined image type (determine whether the image is color or monochrome type, col. 2, lines 42-52); (4) control means (original discriminating means, Fig. 2A, Fig. 5, Fig. 9, col. 3, lines 15-24) for changing to the third recording mode, when one of the first and second recording modes is selected by said selecting means, and said determining means determines that the input image is the predetermined image type.

However, Fujimoto does not explicitly disclose wherein the an image processing apparatus comprising: (1) selecting means for selecting a recording mode from among a first recording mode for unconditionally decimating the image input by said input means and recording the image on a recording material; (2) a second mode for referring to images of pixels surrounding the image input by said input means, decimating the image, and recording the image on the recording material.

Narendranath, in the same field of endeavor for image forming apparatus, discloses 1) selecting means (UI using via control panel, col. 3, lines 14-24) for selecting a recording mode (recording modes, Fig. 3) from among a first recording mode for unconditionally decimating (Print All Colors Reduced Mode, Fig. 3) the image input by said input means and recording the image on a recording material; (2) a second mode (Print with Reduced Black Only Mode, Fig. 3, col. 8, lines 6-24) for referring to images of pixels surrounding (only black pixels surrounding the images will be printed, col. 8, lines 6-24. Also see Fig. 2, col. 7, lines 48-67) the image input by said input means, decimating the image, and recording the image on the recording material.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Fujimoto as per teachings of Narendranath because of a following reason: to save toners/inks consumption and output highly quality images (Narendranath, col. 6, lines 40-65). Therefore, it would have been obvious to combine Fujimoto with Narendranath to obtain the invention as specified in claim 9.

Regarding claim 10, the combinations of Narendranath and Fujimoto as described in claim 9 above provide first, second, and third recording modes.

Regarding claim 11, Fujimoto further discloses an image processing apparatus according to Claim 9, wherein said input means inputs one-pixel binary image data (image with black pixel, Fig. 5, col. 12, lines 47-55).

Regarding claim 13, Fujimoto further discloses an image processing apparatus according to Claim 9, wherein the predetermined image type is a color image (Fig. 5), and said determining means determines whether the input image is one of a monochrome image and a color image (Fig. 5); and said control means changes (mode managing means, Fig. 5, col. 3, lines 15-32) to the third recording mode, when the first and second recording mode is selected by said selecting means, and said determining means determines that the input image is a color image.

Regarding claim 14, Fujimoto further discloses an image processing apparatus according to Claim 9, wherein said input means inputs an image having a plurality of pages (image having

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a plurality of colors, Fig. 18); said determining means (Fig. 18) determines the image type of the input image in units of a page (i.e. page having yellow, magenta, and cyan colors, Fig. 18); and said control means controls the recording mode in units of a page (color mode, Fig. 18).

Regarding claim 15, Fujimoto further discloses determining means for determining the image type of the input image; and control means (original discriminating means, Fig. 2A and Fig. 5, col. 3, lines 15-24) for changing the recording mode selected by said selecting means in accordance with a determination result by said determining means; wherein said determining means (mode managing means, Fig. 5, col. 3, lines 15-32) determines whether the input image is one of a monochrome image and a color image, and if a monochrome image, whether the monochrome image is one of a character image and a halftone image (separation/screen circuit determines whether the monochrome image is character or halftone images, col. 14, lines 23-31); and said control means changes (if it is not color image, switch to monochrome image mode, Fig. 6) to the second recording mode, when the first recording mode is selected by said selecting means, and said determining means determines that the monochrome image is a halftone image (separation/screen circuit determines whether the monochrome image is character or halftone images, col. 14, lines 23-31).

Regarding claims 24-26, and 28-30 are the method claims corresponding to the apparatus claims 9-11, 13-15 (respectively). The method claims are inherent and included by the operation of the apparatus claims. Please see claims rejection basis/rationale as described in claims 9-11, 13-15 above.

Regarding claims 39-41, 43-45: Claims 39-41, 43-45 correspond to claims 9-11, 13-15 (respectively) except computer readable memory medium for storing program is claimed rather than printing system or data output apparatus. An image forming apparatus as disclosed by Fujimoto shows computer readable memory medium (HD storage, Fig. 2A) for storing computer programs, hence claims 39-41, 43-45 would be rejected using the same rationale as in claims 9-11, 13-15.

Regarding claims 47 & 50, please see rejection rationale/basis as described in claim 9 above.

Regarding claim 48, please see rejection rationale/basis as described in claim 15 above.

Regarding claim 51, please see rejection rationale/basis as described in claim 30 above.

Regarding claim 53, please see rejection rationale/basis as described in claim 39 above.

Regarding claim 54, please see rejection rationale/basis as described in claim 45 above.

4. Claims 12, 27, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto and Narendranath as described in claims 9-11, 24-26, 39-41 above, and further in view of Tokuyama et al (U.S. 6438274).

Regarding claim 12, Fujimoto further discloses an image processing apparatus according to Claim 9, wherein said input means input one of binary data received from another communication apparatus (PDA, Fig. 2A).

However, the combinations of Fujimoto and Narendranath do not disclose explicitly wherein the binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

Tokuyama, in the same field of endeavor for image forming apparatus, discloses the binary data obtained by binarizing multi-valued image (multi-value and binary image processing sections, Fig. 3, col. 1, lines 4-10 and col. 2, lines 57-67) data obtained by reading a subject copy.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Fujimoto and Narendranath as per teachings of Tokuyama because of a following reason: (1) to prevent deterioration of image (Tokuyama, col. 2, lines 57-60); (2) operational efficiency of the color image forming apparatus is improved (Fujimoto, col. 2, lines 1-5); (3) reduction of the life of the motors and/or problems of noise and wasted power consumption can be prevented and reduction of waiting time (Fujimoto, col. 8, lines 33-42).

Therefore, it would have been obvious to combine Tokuyama with Fujimoto to obtain the invention as specified in claim 5.

Regarding claim 27: Claim 27 is the method claim corresponding to the apparatus claim 12 above. The method claims are inherent and included by the operation of the apparatus claims. Please see claims rejection basis/rationale as described in claims 12 above.

Regarding claim 42: Claim 42 corresponds to claims 12 except computer readable memory medium for storing program is claimed rather than printing system or data output apparatus. An image forming apparatus as disclosed by Fujimoto shows computer readable memory medium (HD storage, Fig. 2A) for storing computer programs, hence claim 42 would be rejected using the same rationale as in claim 12.


Conclusion

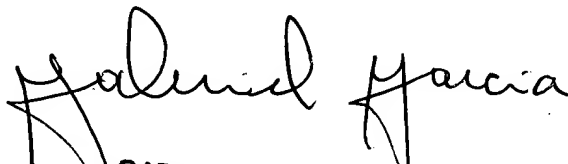
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L Pham whose telephone number is (703) 305-1897 or email Thierry.pham@uspto.gov. The examiner can normally be reached on M-F (8:30 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on (703)308-7452. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Thierry L. Pham


Jan. 7, 2004


GABRIEL GARCIA
PRIMARY EXAMINER